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12:50~13:00	Opening	15:15~15:45	Murako
13:00~13:30	G. Lani	15:45~16:15	Duan
13:30~14:00	Sae	16:15~16:45	Vilaysane
14:00~14:30	Khang	16:45~17:45	Closing
14:30~15:00	Sasaki		
15:00~15:15	Break		

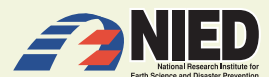
① Education Tool
② Template
③ Questionnaire
25th Jan.



**Technology-Education
Linkage Through**

Disaster Reduction Hyperbase

**-Ideas from GCOE-ARS Classroom 2012-
Kyoto University**



Contact

GCOE-ARS <<http://ars.gcoe.kyoto-u.ac.jp>>

Kaoru TAKARA takara.kaoru.7v@kyoto-u.ac.jp

DRH <<http://drh.bosai.go.jp/>>

Management: Hiroyuki KAMEDA kameda2@minuet.plala.or.jp

Web site: Hiroaki NEGISHI negishi@bosai.go.jp

Introduction

The GCOE-ARS curriculum includes “interdisciplinary seminar” subjects, one of whom is “Self-Organized/Voluntary Seminar for Sustainability/Survivability Science (U-Y-03)” . This interdisciplinary seminar involves professors and students from different disciplines. In the second semester of 2012, we organized a seminar (U-Y-03-2012 B) for Disaster Management Technology Database (DRH Exercise), in which six professors and seven students from seven countries (China, Laos, Myanmar, Philippine, Tanzania, Vietnam and Japan) enrolled in GCOE-ARS worked together to produce educational materials, using the Disaster Reduction Hyperbase (DRH) system (<http://drh.bosai.go.jp/>), which is a well-known knowledge base for management of various kinds of disasters. This booklet is the outcome of this educational endeavor.

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Members

Students

Aye Aye Soe
Bounhieng Vilaysane
Dang Quang Khang
Fernandez Glenn Fiel
Takako Sasaki
Weili Duan
Wilbert Timiza Muruke

Staff

Kaoru Takara
Hiroyuki Kameda
Hiroaki Negishi
Bin He
Kenichiro Kobayashi
Yukiko Takeuchi

Summary of Classroom

This class is one of the Interdisciplinary seminars of GCOE-ARS (code: U-Y-03). This seminar is provided by two or more instructors from different disciplines to students from different field of study. In order to be certified, students must attend this seminar for at least 1 semester (15 attendance or more). This seminar was the second holding secondary to 2011. Seminar of 2011 was an intensive course of lecture. 2012 was general lecture style.

For the academic year 2012, six educators were involved in this seminar, and then entitled "Disaster Management Technology Database (DRH Exercise)", whose objective was the development of disaster education tool using the DRH database. Figure 1 shows the structure of the disaster education tools developed in this classroom. DRH, Disaster Reduction Hyperbase, is a web-based database on disaster risk reduction (DRR). For more details on DRH, please refer to the "About DRH" section on page 6-7. DRH's contents is based from practitioner and some experience and DRH focus is practitioner use it. Thus, DRH's contents have much information about DRR. Many practitioners all over the world use DRH. Other hand, DRH is not entry point for beginner, low awareness people of DRR. For beginner, low awareness people of DRR, some disaster education tool is effective to growing knowledge, interest, desire and action of DRR. This idea is KIDA tree model (Shaw et al, 2009). Therefore, the objective of this seminar is to try and develop original DRR education tools based on the DRH contents.

Seven students enrolled in this U-Y-03 seminar and it started in October 2012. Figure 2 shows the flow of this seminar as it took place in 2012. And the four steps the students went through to develop their own DRR education tool project. Students idea was freedom and they completed DRR education tool or idea plan about DRH system. From page 8 is students out put from this classroom.

Reference: Shaw et al, 2011, Chapter 1-2-3 of Disaster Education, Emerald Group Publishing Limited, pp176
「<http://www.emeraldinsight.com/books.htm?issn=2040-7262&volume=7&PHPSESSID=t9jmlId6bu0e5qbhc8vvhkoe386>」

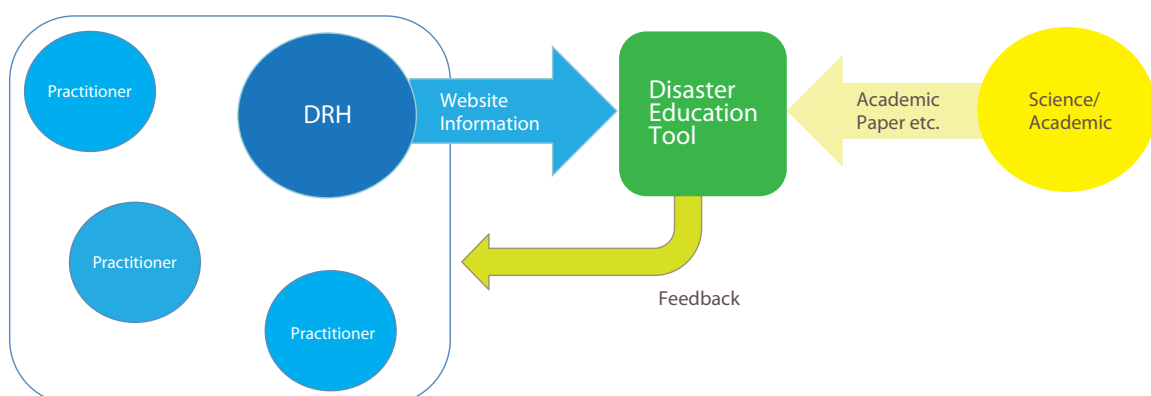
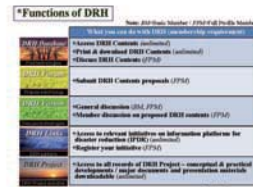
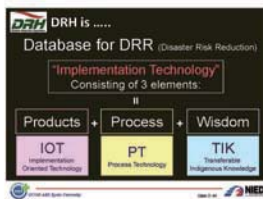


Figure 1. Structure of Disaster Education Tool of this Classroom

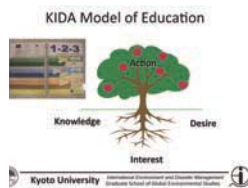
LECTURE

During the lectures, students learnt about disaster risk reduction and disaster education tools, as well as DRH.



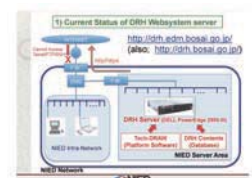
TRAINING

Students accessed the DRH website, and got acquainted with the structure and contents of the database. After accessing and discovering the DRH website, students proposed their own original education tool.

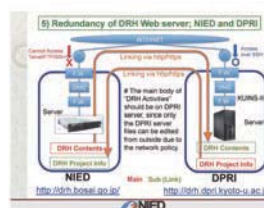
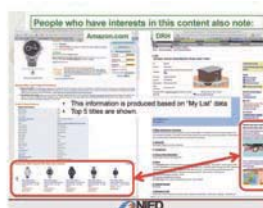


DEVELOPMENT OF TRAINING TOOL

Students developed original education tool using contents from DRH and from other academic sources.



Students gave presentations about the original education tools they created, and made corrections based on the educators' comments.



PRESENTATION

Figure 2. Flow of Classroom U-Y-03 2012 B

About GCOE-ARS

Global COE Program

Sustainability / Survivability Science for a Resilient Society Adaptable to Extreme Weather Conditions

One of the most urgent global issues of our time is to cope with the impacts of the clearly recognized climatic changes, and associated extreme weather and water-related hazards, such as floods and droughts. Even if we were to immediately stop the present increase of emissions of greenhouse effect gases (e.g., carbon dioxide), it would be impossible to curtail the detrimental outcome on our global climate. The lasting effects from our present industrial activities will continue for several decades.

At Kyoto University, in order to confront these crucial problems, we hope to provide more innovative education by creating a new interdisciplinary graduate school education system (Educational Unit) through the GCOE program. This effort will produce young world leaders from many countries, who will have the expertise to deal with the global climate issues in the coming decades. The Educational Unit is composed of five graduate schools (Global Environmental Studies, Science, Engineering, Informatics and Agriculture) and two research institutes:

Disaster Prevention Research Institute (DPRI) and Research Institute for Sustainable Humanosphere (RISH), as shown in Figure 1. The Educational Unit consists of two interdisciplinary courses: Science-Engineering (SE) Joint Course and Humanity (Liberal Arts) and Science-Engineering (H-SE) Joint Course. The Division of Earth and Planetary Sciences (DEPS), Graduate School of Science, will lead the SE course through the Integrated Earth Science Hub. This Hub was created as a result of the 21st Century COE Program "KAGI (Kyoto University Active Geosphere Investigations) 21" in 2003-2007, which was led by DEPS with RISH and DPRI. The Department of Environmental Management (DEM), Graduate School of Global Environmental Studies will lead the H-SE course.

These Joint Courses are created because the global issues cannot be adequately addressed by researchers working in single disciplines. Viable solutions need a sound scientific basis, along with appropriate engineering considerations, as well as

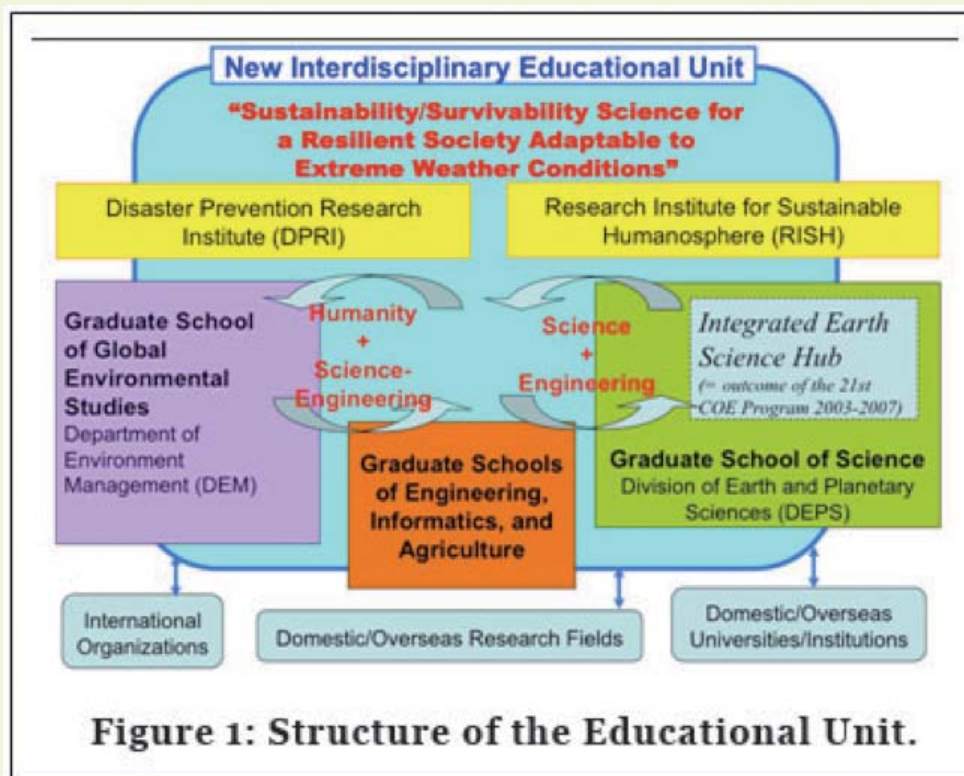


Figure1: Structure of the Educational Unit.

human-based, community-based and socially relevant considerations. It is necessary to train researchers with technical specialties and at the same time develop wider perspectives that cover interdisciplinary aspects. In other words, we need specialists in individual scientific disciplines with the view of “generalists”.

Collaborating with international organizations and other universities/institutions in the world, the program also includes research opportunities for graduate students, post-doctoral fellows and assistant professors. This will provide on-the-job training in domestic/overseas research fields with Kyoto University professors and visiting professors from other institutions who are invited to participate in this GCOE.

Through the education efforts of this GCOE program, Kyoto University can provide the new leaders who will develop the real solutions to mitigate the current and future effects of extreme weather and water disasters in our vulnerable world.

About DRH

What is DRH ?

Disaster Reduction Hyperbase-Asian Application (DRH-Asia) is a web-based database whose objective is to disseminate disaster reduction technology and knowledge. It was designed for potential use by policy makers, community leaders, practitioners and motivated researchers who wish to access appropriate technical know-how that can help them for practical purposes as well as for education and training. DRH provides open and interactive access and easy participation. The following figure is the top page of DRH-Asia.



The DRH-Asia site includes:

- * **DRH Database (Find technologies)**
- * **DRH Forum-1 (Propose a technology)**
- * **DRH Forum-2 (Discuss technologies)**
- * **DRH Links (DRH partners).**

It also provides:

- * **DRH Project (DRH Project activities)**

allowing access to all records of the DRH Project (Phase I: April 2005-March 2006, Phase II: July 2006-March 2009 / major sponsor: MEXT).

What are the Features of DRR Technology and Knowledge in DRH?

In-depth discussion was conducted during the DRH Project in order to define a "useful" DRR technology. This led to the concept of 'Implementation Technology' that consists of the following components:

Note: BM=Basic Member / FPM=Full Profile Member	
What you can do with DRH (membership requirement)	
 Find technologies	+Access DRH Contents (<i>unlimited</i>) +Print & download DRH Contents (<i>unlimited</i>) +Discuss DRH Contents (<i>FPM</i>)
 Propose a technology	+Submit DRH Contents proposals (<i>FPM</i>)
 Discuss technologies	+General discussion (<i>BM, FPM</i>) +Member discussion on proposed DRH contents (<i>FPM</i>)
 DRH partners	+Access to relevant initiatives on information platforms for disaster reduction (<i>IPDR</i>) (<i>unlimited</i>) +Register your initiative (<i>FPM</i>)
	+Access to all records of DRH Project – conceptual & practical developments / major documents and presentation materials downloadable (<i>unlimited</i>)

Implementation Oriented Technology

(IOT): Products from modern research and development that are practiced under clear implementation strategies

Process Technology (PT):

Know-how for implementation and practice, capacity building and social development for knowledge ownership

Transferable Indigenous Knowledge (TIK):

Traditional art of disaster reduction that is indigenous to specific region(s) but having potential to be applied to other regions and having time-tested reliability

The DRH contents currently registered originate from Algeria, Bangladesh, China, India, Indonesia, Iran, Japan, Nepal, Peru, Philippines, and Sri Lanka. While DRH-Asia is focused on the Asian context, it is open to contributions from other regions in order to enhance cross-regional collaboration.

What you can do on DRH

The following functions are available for you to make the most of DRH (see Fig.2 also). Some are with unlimited access, while some ask for membership registration. All instructions are found on the DRH site.

- (1) Access, print and download of DRR (disaster risk reduction) technology and knowledge registered in the DRH Database as DRH Contents.**
- (2) Contribute your DRR technology and knowledge by submitting a proposal through DRH Forum-1, having it discussed in DRH-Forum-2 and registered in the DRH Database.**
- (3) Access relevant DRR information initiatives worldwide through the DRH Links. You may register your initiative via web manipulation.**
- (4) Throughout the construction period of DRH-Asia, many conceptual developments were achieved that can be valuable research information. All those documents are available at DRH Project.**
- (5) DRH-Asia has been designed as an English language-based site. Google**

translator has been incorporated and allow users to translate the pages into their own language.

- (6) The software Tech-DRAW, used as the base software of DRH-Asia, is available to those interested in their regional DRH by establishing an agreement with NIED (National Research Institute for Earth Science and Disaster Prevention), Japan.**

References

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- + "Implementation Technology" by DRH Contents: Disaster Reduction Hyperbase-Asian Application (DRH-Asia), EDM-NIED Editorial Team, October 2010.
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